

WHAT IS CLAIMED IS:

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1. A rotary clamping device for use in clamping and holding a metal casting tree during cutting of the metal casting tree, comprising

 a cylinder,

 an elongate piston rod in said cylindrical projecting axially from the cylinder and having inner and outer ends,

 a piston secured to said piston rod and positioned with the cylinder,

 means connecting the cylinder to a source of fluid under pressure for shifting the piston and piston rod axially of the cylinder in advanced and retracted directions,

 an elongate guide secured to said cylinder and projecting axially therefrom, said guide having inner and outer ends,

 a plurality of jaws positioned exteriorly of the guide and pivotally connected to the guide for pivoting movement of the jaws between open and closed positions,

 means engaging said jaws for normally urging the jaws to the open position,

 cam means on the piston rod engaging said jaws for camming the jaws to a closed position when said piston rod is advanced.

2. The rotary clamping device as defined in claim 1 wherein each jaw is provided with a cam follower which projects inwardly therefrom into engaging relation with said cam.

3. The rotary clamping device as defined in claim 1 wherein at least three jaws are pivotally mounted on said guide.

4. The rotary clamping device as defined in claim 1 wherein said cam means comprises a frusto-conical cam element.

5. The rotary clamping device as defined in claim 1 wherein said guide is of cylindrical configuration.

6. The rotary clamping device as defined in claim 1 wherein said jaws are of generally rectangular configuration having substantially flat clamping faces, and each jaw having a ^{plurality} ~~plurality~~ of clamping teeth secured to the clamping face and ^{extending} ~~extending~~ therefrom.

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7. A rotary clamping device for use in clamping and holding a metal casting tree during cutting of the metal casting tree, comprising,
a cylinder,

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a piston rod in said cylinder and projecting axially from the cylinder,

a piston secured to the piston rod and positioned in said cylinder,

means connecting the cylinder to a source of fluid under pressure for shifting the piston and piston rod axially in advanced and retraced directions,

a pair of elongate similar clamping jaws, means pivotally connecting the jaws to the outer end of the piston rod for pivoting movement of the jaws towards each other in a clamping direction, and away from each other in a release direction, each jaw having a curved outer surface, flat opposed side surfaces, and a curved inner surface,

means engaging and normally urging the jaws in a release direction,

an adjustable abutment member secured to the piston rod and projecting therefrom between the jaws,

a camming ring secured to the cylinder engaging and positioned exteriorly of the jaws, said camming ring having a forwardly tapered inner surface, said camming ring having a pair of opposed slots in the inner surface thereof, each slot defining opposed side surfaces and a camming surface engaging the side and curved exterior surfaces of a jaw whereby when the piston rod is extended the sprue or other part of a metal casting tree will be clamped by at least one jaw and securely held against lateral displacement and

twisting due to side loading and torque forces extended on the metal casting during the cutting operation.

8. The rotary cam as defined in claim 7 wherein each jaw has an outer end, said interior surface of each jaw having a recess therein to define a pair of teeth whereby sprues or other parts of a metal casting to be gripped will project into the jaw recesses.

8. The rotary cam as defined in claim ⁷/₈ wherein the recess in each jaw is of generally V-shaped configuration.